



www.PerihelionDesign.com



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Extraordinarily General Purpose Adjustable Voltage Regulator



To dim the interior lights or instrument panel lights of the certificated aircraft you trained in, you turned a knob attached to an Ohmite Series-A wirewound rheostat. Somewhere behind the Royalite was a smoking hunk of ceramic wound with toaster wire. A finger holding a chiclet of graphite picked off the desired voltage. The whole thing weighed easily as much as a cheeseburger.

It also changed brightness if the load changed and the aircraft vibration could change the selected brightness a bit. But it worked okay.

The LM317 integrated circuit voltage regulator had not yet been invented when many common aircraft were already certificated, so they missed this very nice trick.

Perihelion Design has introduced the EGPAVR for builders who want one or more voltage regulators to dim LEDs or incandescent interior and panel lights. Or actually...anything at all.

Don't be shy. Commercial airplanes have *dozens* of these devices.

Features:

- ON/OFF switch
- Weighs less than 1/2 oz (14 g)
- Thermal Overload Protection
- "Safe Area" Protection
- 80 dB ripple filter
- Overcurrent protection
- Resistors can be added to set max and min.
- Additional switched output supplied.

Specifications:

- 1.5A guaranteed output current
- 14V input standard
- Pot shaft is 0.125" Diam x 0.40 Long
- Bushing is 1/4" Long, 1/4"-32 thd.
- Anti-Rotation lugs
- Connector included.
- Tiny size

**Free Shipping to Mex-Can-US
US\$34.75 each or 3 for \$99.00 Knob included**

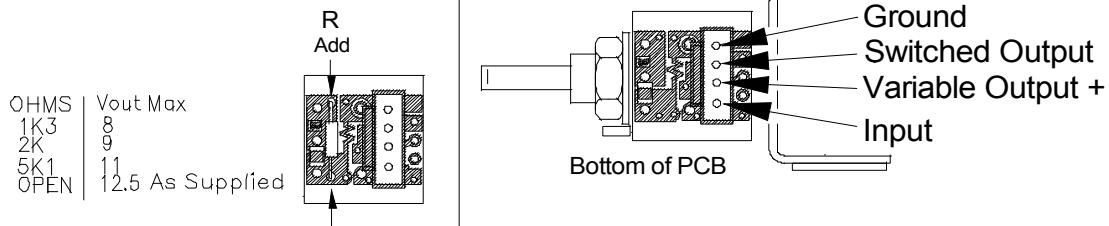


Installation and operation:

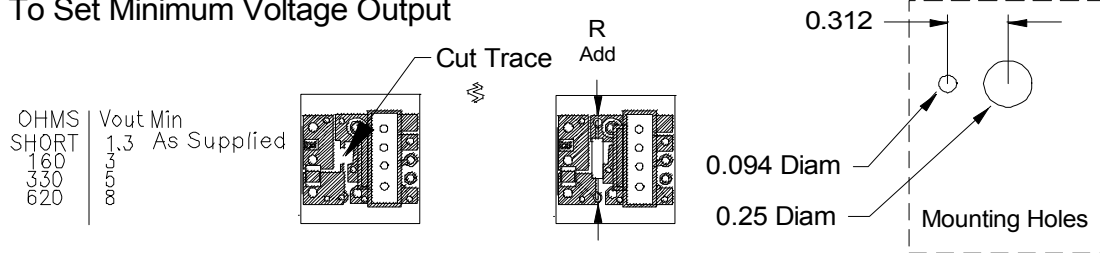
Locate suitable mounting location. Drill mounting holes in the panel as shown. Test fit. Assemble connector using AWG 22 leads.

This is a standard design using an LM317 voltage regulator with high- and low-voltage trim. As delivered the voltage regulator will dim from approximately 1.3 volts to 12.5 volts. If you want to limit the max or min voltage you may install either or both trim resistors (smallest-size axial resistors from Radio Shack, etc.) for the desired output voltage limits. Remember that adding trim resistors to the EGPAVR is a far better solution than adding load resistors to the lighting circuit. A bench test is always a good idea.

To Set Maximum Voltage Output



To Set Minimum Voltage Output



Additional Notes:

For the rare applications where load transients are a problem, an external capacitor may be installed on the power output or we can add a 10uF tantalum to the circuit on special order.

The LM317 is usually indestructible. In conditions of over-heat or over-current, the device simply shuts down. The supplied heatsink is adequate for the maximum load allowed by the regulator chip. The heatsink might get hot (about 50 °C) and that is normal. The device can operate at temperatures beyond 150 °C (!) The absolute guaranteed output limit is 1.50 amps.

KNB series Mil-style knobs for 1/8" shafts are now included. Complete data sheets and schematics for the LM317 may be obtained on the Internet by searching "LM317". If you need assistance please call us!

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Example Wiring

